

Appleby Archaeology Group March 2008

Appleby Archaeology Group welcomed Jaqui Huntley to their March meeting when she spoke about environmental archaeology. She is the English Heritage Regional Science Advisor for the north east and has a teaching and research role as an archaeobotanist in the Department of Archaeology at Durham University.

Environmental archaeology involves the removal of samples from archaeological sites and their analysis in the laboratory and though it may not have the impact of ancient buildings and excavations, it can provide insight into the lives of ancient people and of the environment in which they lived. It includes the study of plant and animal remains, pollens, desiccated and fossilised human and animal dung (coprolite) and other micro remains such as food residue on pottery shards. Organic material can be dated using radio carbon techniques

Some information of how the land was used over the centuries can be gleaned from illustrations in old documents. These show some of the farming practices, such as winnowing and threshing, but more precise information can be obtained by examining the by-products found in the soil. The type of crops grown can be identified from husks and seeds and sometimes, when there has been an accidental fire during the drying process, from their charred remains. The presence of weed seeds can indicate the type of soil as some, for example, will only grow in limestone soils and others in clay.

The cultivation of cereals in an area can be mapped out. In the Neolithic period the remains are primarily those of wild plants but overtime the production of cereals takes over. Oats were a significant crop in the north west from in the Iron age through to the Romano-British period with small localised areas of cultivation in the north east being associated with Roman cavalry sites. Barley was the dominant crop north of a line from the Wirral across to the Wash. Different varieties of wheat were grown over the centuries. Emmer wheat was common in the Bronze Age and its cultivation persisted in settlements north of the Tyne. Spelt wheat was grown in the lowland settlements until the 10th and 11th centuries. A bread wheat, similar to today's wheat, appears first in the Anglo Saxon period. Rye was grown on Stainmore and there is documentary evidence of its being grown in a nunnery near Bowes.

Jaqut described the technique of boring into the earth using a hollow drill to obtain a cylindrical example of the underlying soil. The cores of soil obtained can cover a considerable period of time, with the deeper parts being earlier than those near the surface. The core can be thinly sliced, and each section analysed to build up a picture of how the land usage has changed through time

Pollen grains, such as those from oaks and dandelions, persist in the soil and can be detected and identified. Pollen can travel long distances and finding it gives the archaeobotanist an idea of the landscape of the time. Pollen analysis of peat cores from Warkworth in Northumberland showed that at the time the castle was built the landscape was open pasture land and must have looked very much as it does today.

Environmental archaeology can help to determine how the weather has changed through the millennia. Conditions are indicated by the type of vegetation but important clues can be obtained from the presence of insects and minute organisms. For example different species of beetles tend to be found under certain climatic conditions. The knowledge of the present climatic range of a species, and of the age of the sediments in which its remains were found, provide insight into past climatic conditions.

Animal remains show the livestock that were grazed and how they were used. An animal's bones can show its species and the teeth can indicate its age. The remains of young sheep and cattle suggests that they were used for meat but if the the remains are of older stock it is more likely that the sheep were kept for wool and the cows for milk. Laboratory examination may reveal details of butchering. From this information and the location of the find it is possible to deduce which cuts of meat were being eaten by the peasants and which by the "high table". The number of bones found sometimes poses a question. For example, near Carlisle, two hundred cattle front legs were found indicating one hundred beasts but four times as many shoulder blades were found. The shoulder blades showed signs of butchery which suggests that they had been brought in to feed the garrison. To date the source of this meat has not been identified. There are however very few large assemblages of bones due to acid soil conditions and small discrepancies in the number of bones are not significant.

Documentary evidence such as the tablets of Vindolanda tell us much about the daily lives of the

people but findings of this kind are rare. Information about age and health are found from human remains and artefacts will give an idea of their status. Coprolite can show what our ancestors were eating and what parasites they had. For example a trace of bran can show the type of cereal eaten. Further information about diet is gained from analysis of pottery. At Carlisle, pottery, similar to that found in North Africa, showed that the food eaten contained figs, grapes, apricots and coriander suggesting that the garrison originated from Mediterranean. By contrast at Ribchester, at the time when the troops stationed there, came from present day Romania, the diet contained quantities of cabbage and radish. Thus it seems likely that that in the early days of the Roman occupation the troops continued to eat as they had in their own country.

Jaqui took a number of questions from the floor before being thanked for an interesting and informative insight into what environmental archaeology can tell us about our ancestors daily lives.

The next meeting will be on the Tuesday 8th April at 7.30pm, in the Supper Room Market Hall Appleby, when Jo Dawson from Greenlane Archaeology will talk about Post Medieval Pottery.

Phyllis Rouston